

Medium-Mu Triode— Sharp-Cutoff Pentode

9-PIN MINIATURE TYPE
For High-Fidelity Audio-Amplifier Ap-
plications Critical as to Noise and Hum

GENERAL DATA

Electrical:

Heater Characteristics and Ratings:

Voltage (AC or DC) 6.3 ± 0.6 volts
Current at heater volts = 6.3 0.450 amp

Peak heater-cathode voltage (Each
Unit):

Heater negative with
respect to cathode 200 max. volts

Heater positive with
respect to cathode 200^a max. volts

Direct Interelectrode Capacitances:^b

Triode Unit:

Grid to plate 2 pf
Grid to cathode and heater 2.3 pf
Plate to cathode and heater 0.3 pf

Pentode Unit:

Grid No.1 to plate 0.06 max. pf
Grid No.1 to cathode & internal
shield & grid No.3, grid No.2,
and heater 5 pf
Plate to cathode & internal shield
& grid No.3, grid No.2, and
heater 2 pf

Equivalent-Hum and Noise Voltage (Referenced to Grid):

Triode Unit

Average Value (RMS) 10 microvolts
Maximum Value (RMS) 50 microvolts

Measured in "true rms" units under the following conditions:
heater volts = 6.3 ac, center-tap of heater transformer con-
nected to ground, plate-supply volts = 250, plate load resis-
tor (megohms) = 0.1, cathode resistor (ohms) unbypassed = 1500,
grid resistor (megohms) = 0.05, and amplifier covering fre-
quency range between 25 and 10,000 cps.

Pentode Unit

Average Value (RMS) 15 microvolts
Maximum Value (RMS) 35 microvolts

Measured in "true rms" units under the following conditions:
heater volts = 6.3 ac, center-tap of heater transformer con-
nected to ground, plate-supply volts = 250, plate-load resis-
tor (megohms) = 0.22, grid-No.2 supply volts = 250; grid No.2
voltage divider: resistor (megohm) from grid No.2 to B+ = 0.68,
resistor (megohm) from grid-No.2 to ground = 0.33; bypass ca-

← Indicates a change.



RADIO CORPORATION OF AMERICA
Electron Tube Division
Harrison, N. J.

DATA 1
7-63

pacitor (μf) from grid No.2 to cathode = 0.1; cathode resistor (ohms unbypassed) = 680; grid No.1 resistor (megohm) = 0.27; and amplifier covering frequency range between 25 and 10,000 cps.

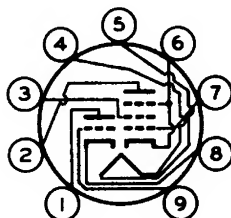
Characteristics, Class A₁ Amplifier:

	Triode Unit	Pentode Unit	
Plate-Supply Voltage.	215	100 220	volts
Grid-No.2 Supply Voltage. . . .	-	50 130	volts
Grid-No.1 Voltage.	-8.5	-	volts
Cathode Resistor.	-	1000 62	ohms
Amplification Factor.	17	-	
Plate Resistance (Approx.). . .	0.0081	1 0.4	megohm
Transconductance.	2100	1500 7000	μmhos
Plate Current.	9	1.1 12.5	ma
Grid-No.2 Current.	-	0.35 3.5	ma
Grid-No.1 Voltage (Approx.) for plate $\mu\text{a} = 10$	-40	-4 -	volts

Mechanical:

Operating Position. Any
 Type of Cathodes. Coated Unipotential
 Maximum Overall Length. 2-3/16"
 Maximum Seated Length. 1-15/16"
 Length, Base Seat to Bulb Top (Excluding tip) . 1-9/16" $\pm$ 3/32"
 Diameter. 0.750" to 0.875"
 Dimensional Outline See *General Section*
 Bulb. T6-1/2
 Base. Small-Button Noval 9-Pin (JEDEC No.E9-1)
 Basing Designation for BOTTOM VIEW. 9JT

Pin 1 - Triode
 Plate
 Pin 2 - Pentode
 Plate
 Pin 3 - Pentode
 Grid No.2
 Pin 4 - Heater
 Pin 5 - Heater



Pin 6 - Pentode
 Cathode,
 Grid No.3,
 Internal
 Shield
 Pin 7 - Pentode
 Grid No.1
 Pin 8 - Triode
 Cathode
 Pin 9 - Triode
 Grid

AMPLIFIER — Class A₁

Maximum Ratings, Design-Maximum Values:

	Triode Unit	Pentode Unit	
PLATE VOLTAGE	330 max.	330 max.	volts
GRID-No.2 (SCREEN-GRID) SUPPLY VOLTAGE.	-	330 max.	volts
GRID-No.2 VOLTAGE	-	See <i>Grid-No.2 Input</i>	
<i>Rating Chart at front of Receiving Tube Section</i>			
GRID-No.1 (CONTROL-GRID) VOLTAGE: Positive-bias value	0 max.	0 max.	volts



	<i>Triode Unit</i>	<i>Pentode Unit</i>	
GRID-No.2 INPUT:			
For grid-No.2 voltages up to 165 volts	-	0.6 max.	watt
For grid-No.2 voltages between 165 and 330 volts	-	See <i>Grid-No.2 Input Rating Chart</i> at front of Receiving Tube Section	
PLATE DISSIPATION	2.4 max.	3 max.	watts

Maximum Circuit Values:

	<i>Triode Unit</i>	<i>Pentode Unit</i>	
Grid-No.1-Circuit Resistance: ^c			
For fixed-bias operation	0.5 max.	0.25 max.	megohm
For cathode-bias operation	1 max.	1 max.	megohm

^a The dc component must not exceed 100 volts.

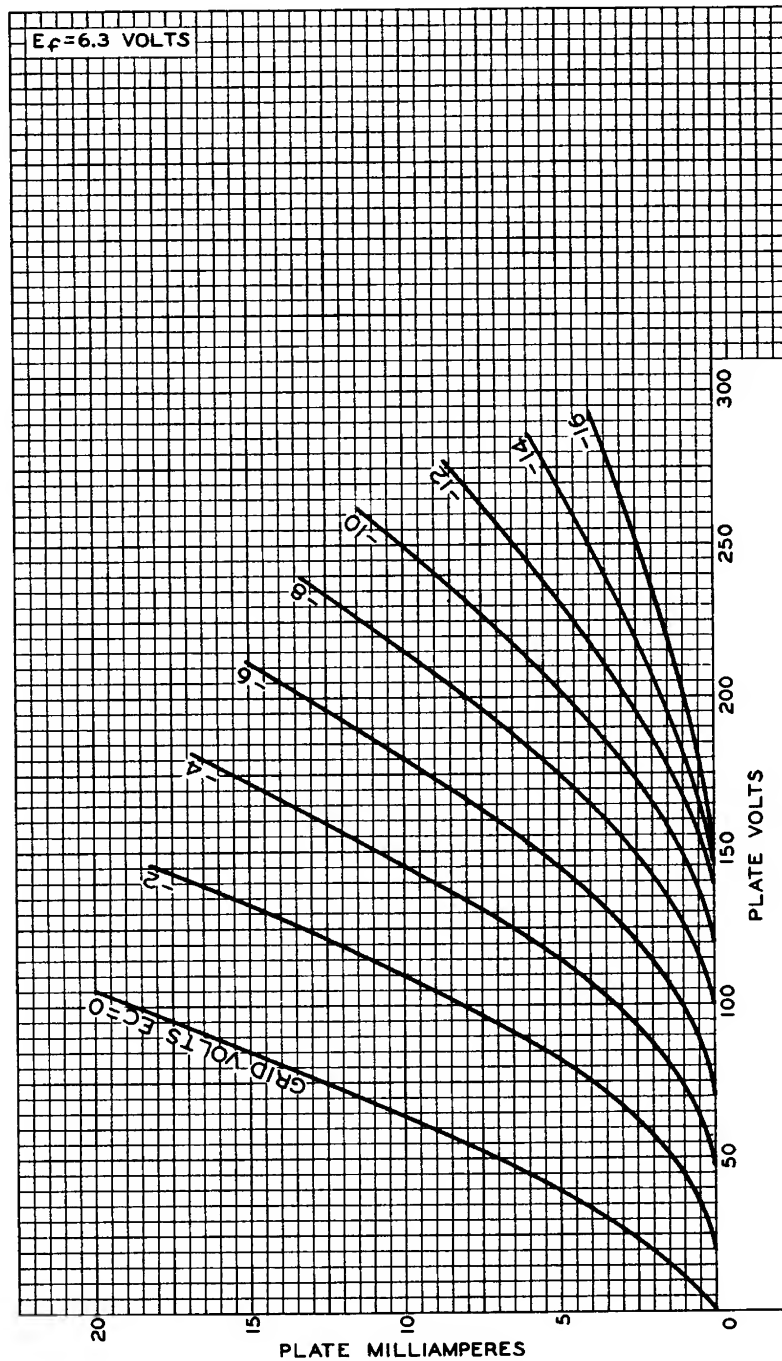
^b Without external shield.

^c If either unit is operated at maximum rated conditions, grid-No.1-circuit resistances for both units should not exceed the stated values.



7199

AVERAGE PLATE CHARACTERISTICS Triode Unit



92CM-9693

RADIO CORPORATION OF AMERICA
Electron Tube Division

Harrison, N. J.

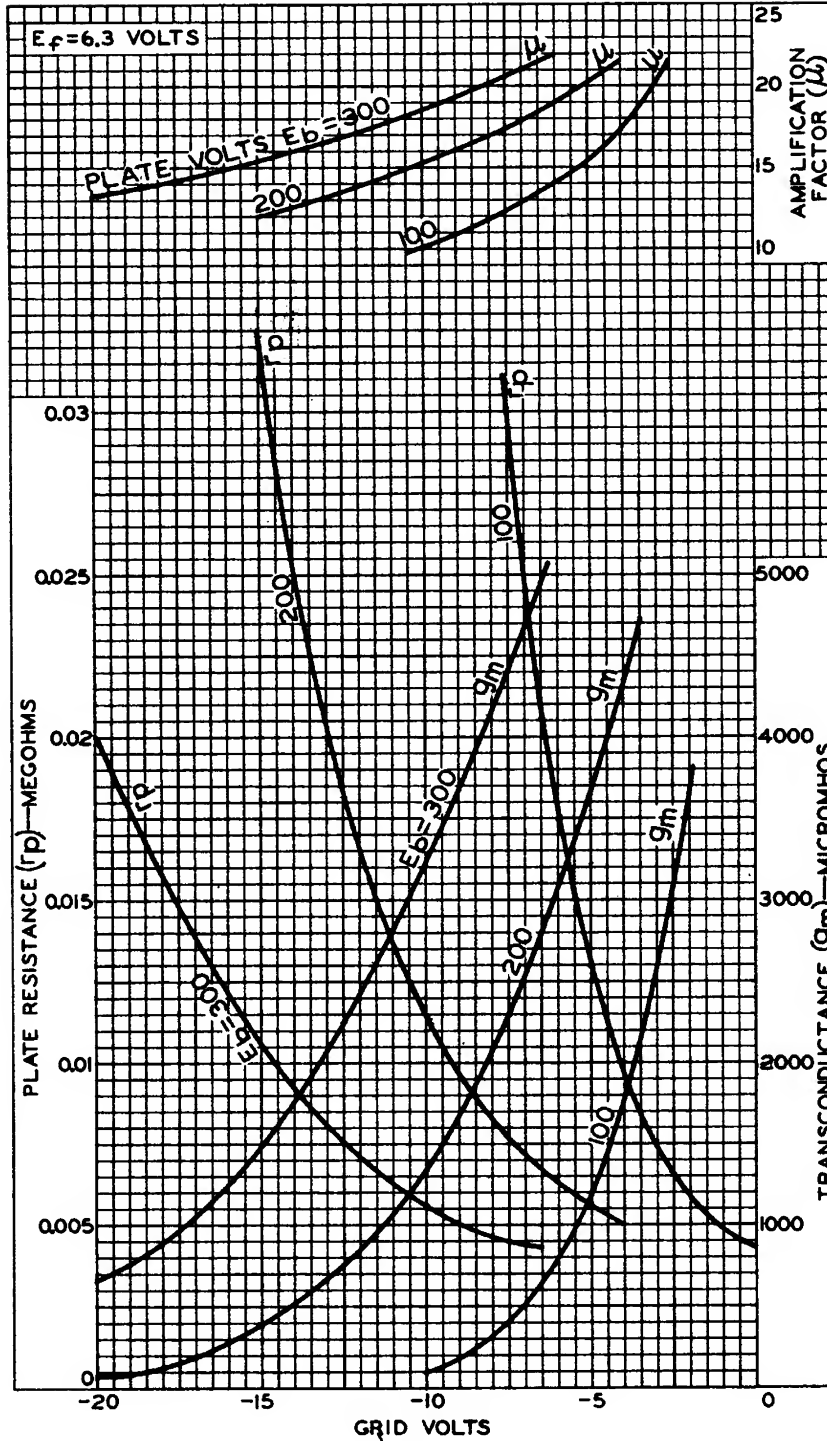




7199

7199

AVERAGE CHARACTERISTICS TRIODE UNIT



ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

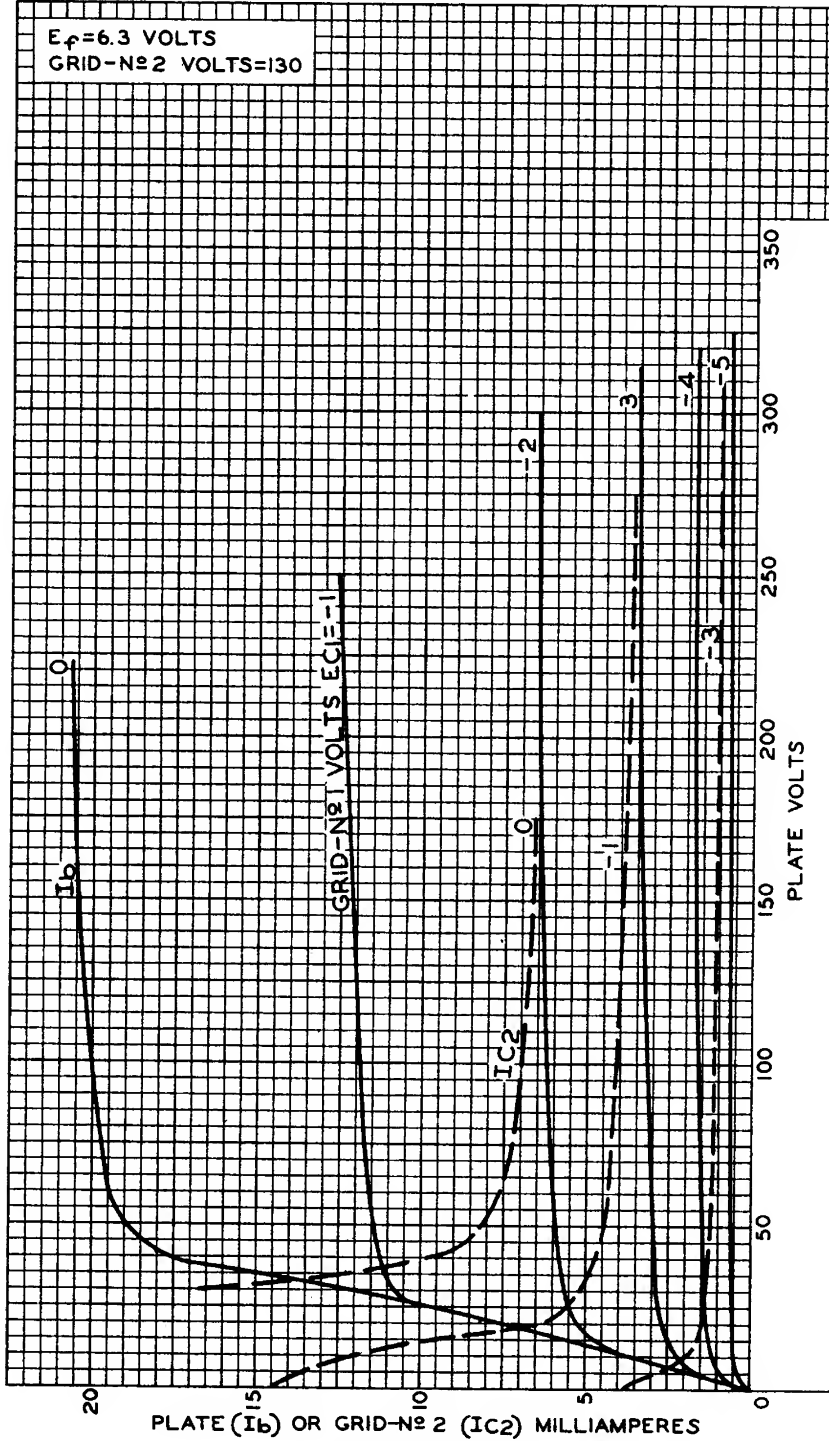
92CM-9704

7199



7199

AVERAGE CHARACTERISTICS PENTODE UNIT



ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

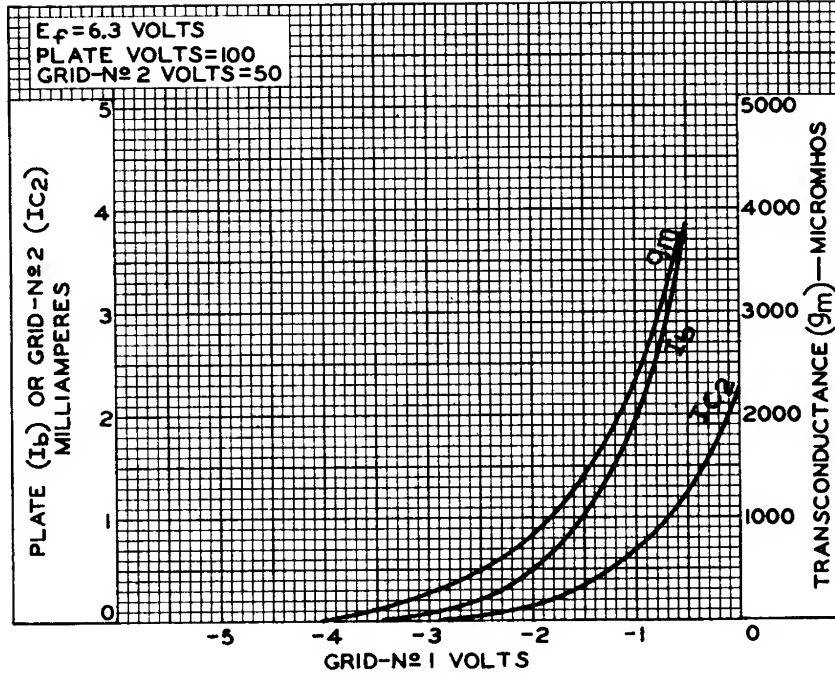
92CM-9701



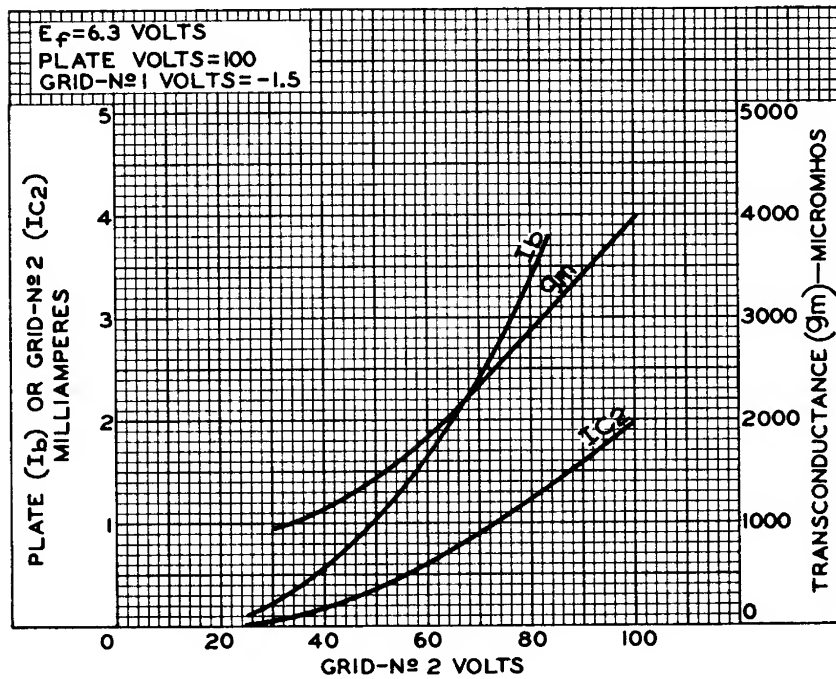
7199

AVERAGE CHARACTERISTICS PENTODE UNIT

7199



92CS-9702



ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

92CS-9703